

# LISTING Newsletter

Newsletter of the  
Long Island Sinclair/Times  
Users Group  
.....

Incorporating NYTSE

APRIL 1988

CHECK INSIDE FOR DETAILS!

|||||

# NO MORE QLS?

## MEETING ANNOUNCEMENT

LIST- May 15, 2PM at  
Harvey R.'s home-  
address inside.

NYTSE- Monday May  
23, Miss Kim's Deli,  
Park Ave. S. between  
21 & 22 St. 7PM.  
Upstairs- look for  
a bunch of geeks.

So far I haven't gotten any input on a NY area fest. Well??  
Don't forget there will be a fest in OH Aug. 26,27 and in  
OR August 6,7. Check last issue for info.

QL SUPERBASIC, The Definitive Handbook, by Jan Jones,  
writer of SUPERBASIC. Joe Newman has a few copies left  
for \$13...address inside. Used to be \$23! BUY NOW while they're  
still left!

L.I.S.T.  
5 Peri Lane  
Valley Stream, NY 11581

TO:

FIRST CLASS MAIL  
DATED MEETING NOTICE

Please DON'T delay!

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=====
!           LISTing Listing           !
! Please send submissions to:         !
!   Joe Newman, 325 W. Jersey St.,    !
!   #2D, Elizabeth, NJ 07202         !
! or send items for the LIST group    !
! to: LIST, Harvey Rait              !
!   5 Peri Lane                      !
!   Valley Stream, NY 11581          !
! PLEASE NOTE THE NEW LIST ADDRESS    !
!   yearly LIST dues- $15            !
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#### NEWSLETTER NEWSNOTES

IS the QL no more? The latest word I have received is that A+ Computer Response will no longer sell individual QL's. Apparently they have received at least four offers to buy their remaining stock of about 800 QL's. As of this writing I am not sure of their decision.

Mark Steuber of Sharp's, Inc. says that he has offered to buy about 200 of the QL's...he really wants to keep the QL's in the U.S. (it seems that two of the offers came from Europe, as they are desperate for QL's). All I can say is "Caveat Emptor"- Let the Buyer Beware!! A+ has given itself a reputation matching that of Sinclair in the quality control department... NOT GOOD. Whatever the outcome of the deals, let's just hope the QL lives on in support, just like the rest of our humble Sinclair computers.

I still need out of the newsletter editorship, and it looks like I can't just give it up...I'm still waiting for offers to take over!

#### LIST Officer Outcome

Due to poor attendance at the previous few LIST meetings, officer elections have been further postponed. The attending members have decided that all officers will remain in their current positions until an election can be held. If any officer wishes to resign his post, he must find a replacement first. I never thought newsletter editor was an officer, but I am bound by the same rules.

I hope poor attendance hasn't been a consequence of late newsletters. If you are unsure of a meeting date and haven't received a newsletter giving the latest meeting date, don't forget you can always call or write me or Harvey R. Addresses are at the top of this page. My phone number is (201) 527-0535. A late newsletter is no excuse for missing a meeting!

#### LISTING NEEDS ARTICLES

Unless you start contributing some more articles NOW you are going to see many more "THIS ARTICLE STOLEN FROM" notices here in LISTing. I am OUT-totally- of contributed articles. The LISTing contribution policy is as follows:

All articles should be submitted as camera ready. No pencil or blue ink should be used as these will not reproduce. If you must use 2040 printer printouts, make sure they're not smudged. Also, be careful when pasting up pages- poor cutlines will show up, as will poor glue or tape jobs. Of course as editor it is my job to make sure the submissions are cleaned up, but I (and any editor) will truly appreciate good camera ready copy (accolades to Cedric!).

DON'T DESPAIR IF YOU CAN'T PREPARE CAMERA READY WORK- of course submissions can be sent in as other forms. Typewriting is a must- if I can't read your handwriting, the article can't get typed up by me. Quill and Editor (preferred) files on DISK are great too- include return postage if you want media returned. I can't take articles on 2068 or 1000 media as I currently have no means of transferring files to the QL from them.

The EDITOR reserves full right as to WHEN articles are published (if ever). YOU reserve ALL rights to published material- you may submit it to other sources even if it has been printed here. In the interest of keeping Sinclair support alive, other groups

are allowed to reprint articles from LISTing, as long as FULL CREDIT is given to the original author and source.

**MOST IMPORTANT- SEND ALL SUBMISSIONS TO THE NEWSLETTER EDITOR!!!** Address is in the LISTing Listing at the top of the first page (Joe Newman).

Thank you for your continuing support and **SEND IN THOSE ARTICLES.**

#### SPEAKING OF THANKS

There are several people who deserve direct thanks for their continuing help in the survival of LISTing and LIST (in no special order):

Thomas Skapinski- he gets the newsletter printed and sent out. If its late, it's NOT his fault!

Harvey Rait (& cat)- for allowing us to commandeer his humble abode each month as a meeting place...the donuts are good too!

AND all of the members who show up or send money (SUBSCRIBERS), comments, or whatever as signs of their support.

#### A GLOSSARY OF COMPUTER TERMS

**DOUBLE DENSITY-** Really dumb!

**ELECTRONIC MAIL-** The only kind delivered in less than a week.

**EXPANSION SLOTS-** The extra holes in your belt.

**FATAL BUG-** To have a Volkswagen drop on you.

**FLOPPY DISK-** Serious curvature of the spine (probably from sitting in front of a computer too long).

**HEAD CRASH-** A collision with a Port-A-Potty.

**INTERPRETER-** Someone you take with you to the computer so you can understand the salesman; usually a 12 yr. old.

**KEY PAD-** An apartment with a lock.

**KEY WORD-** "Your place or mine?"

**MACHINE LANGUAGE-** "Zoom, Putt-putt, Chugga-chugga", etc....

**MEMORY-** Where data is placed prior to losing it.

**MENU-** an itemized list of ways to make

a mistake on a computer.

-from **TIMELINEZ**, Dec. 1987.

## **ON/OFF Switch-Continued from Page 9**

your computer you get a deep-throated buzz from the speaker instead of the first screen, turn off the computer immediately, because you have managed to reverse the red and blue wires. If you turn it on and nothing happens, then either the red or green wire or both is not making the proper connection. If you turn it on and the computer works but your printer doesn't, then the blue wire is not making a good connection. And don't forget, your switched power supply is only switched IN FRONT OF the transformer, so don't walk away from your machine and leave the transformer cooking 24 hours a day. Get a surge protected, switched power strip to plug your entire system into, and you won't have to worry about that problem.

That's it! I like having an on/off switch on my QL! I hope that you will, too.

## **Law Enforcement In The Chips**

**P**aul Dye may spend a lot of time waxing poetic about what a double-edged sword computers can be. Dye is a convicted British smuggler who kept track of his important meetings with his trusty Psion Organiser hand-held computer—a man who smuggles \$150 million worth of heroin through Heathrow Airport probably has a lot of appointments to keep.

When authorities caught up with Dye they found no contraband, but they did find his computer. Dye was nonchalant—he had erased everything, or so he thought. Turns out the Psion stores information not only in RAM but on an EEPROM chip as well, just in case the owner inadvertently erases something. The authorities took the EEPROM cartridge to Psion, where software technicians had little trouble extracting the data that led to Dye's 28-year sentence.

**Moral:** Always read the owner's manual.



From **InformationWEEK**--September 28, 1987

May 1st, 1987

Mr. N.A. Pashtoon  
c/o LIST  
PO BOX 438  
Centerport, NY 11721

Dear Mr. Pashtoon,

I read with interest your over-view resources and products available in the U.S. for the Sinclair QL microcomputer. I was however, quite frankly surprised that our own information services for the QL were omitted from this list. I have seen this same article reproduced in many other newsletters across the country.

I do realize how difficult it is to make such listing as complete as possible, but I just assumed that most Sinclair circles were familiar with our regular QL columns in TIME DESIGNS. (Guess I need to get down and do some more advertising!?)

Since January/February 1986, we have supported the QL in our magazine's content, and have gradually increased the number of programs and articles that appear regularly for this machine. In fact, there have been times when our page count for QL related items have been greater than those publications that call themselves "the only American publication devoted to the QL". Not to mention that the remainder of the magazine also covers other Sinclair micros.

In addition to TIME DESIGNS, we have released a very excellent book written by our regular columnist Mike de Sosa, entitled "TAKING THE QUANTUM LEAP: THE LAST WORD ON THE SINCLAIR QL". It is a 280 page (2 pound) book that is priced at \$26 postage paid. It covers many items that were either not explained clearly in the QLUG, or were not included at all! The book is for both beginners and experts. It also has chapters devoted to many of the new peripherals recently developed for the QL and new software releases. The book is professionally printed and bound, and watch for advertisements and reviews in QL WORLD and QUANTA NL...as we are marketing the book in Europe as well.

If you ever have updates to your Resource and Product listing in the LIST we would appreciate being included in this information. I have enjoyed my contributions to LIST in past years, and admire your expertise. Please keep good work.

Dear Mr. Woods:

I received your letter at a hectic time when I was moving from New York to Illinois. As is usual with such moves, one loses and misplaces a whole lot of stuff, which included your letter. Now, finally that I have set up a QL and a 2068 for processing, it is time to respond (better late than never) to your letter.

When I was writing the overview article on products and resources for the QL the latest issue of Time Designs that I had seen was eight months old (pre-merger with SUM). At that time the coverage of your magazine was biased in favor of an earlier Sinclair computer. After I published my article I had a chance to see some post-SUM subscription issues, and saw that you have expanded your coverage, and Time Designs was better and bigger than ever, and especially there was QL coverage in every issue. Accept my apologies for prejudging your excellent magazine and forming a wrong opinion based on access to a very limited sample. Now to put my money where my pen is, I am writing to you for a two year subscription to Time Designs Magazine. Keep up the enthusiasm and good work.

Yours  
N. Pashtoon

Sincerely,  
*Tim Woods*  
Tim Woods  
Managing Editor  
TIME DESIGNS

April 24, 1988

Gentlemen,

As many of you have requested, I spent a few hours going through our remaining inventory of Timex-Sinclair related merchandise for the purpose of offering it to you at closeout. The enclosed Inventory Sheets are accurate to the best of my efforts as are the descriptions of items being new or possibly defective. Those items not marked either way are to be considered new.


For the sake of any of you who may not be interested in purchasing everything, I've divided the items into groups. I don't want to spend anymore time sorting through the groups, so please make your offers accordingly.

TS Product Groups Offered

Timex Brand 2068 Software  
Miscellaneous 2068 Software  
Miscellaneous Timex-Sinclair Related Hardware  
Items For Sale Individually Or As A Whole  
Miscellaneous Timex-Sinclair Books BOX #1  
TS Books BOX #2  
TS Books BOX #3  
TS Books BOX #4  
TS Books TO BE SOLD BY THE CASE  
Assorted TS1000/ZX81/TS1500 Software (Sold As One Lot)

These items are already boxed in their groups and are sitting on our loading dock ready to ship. If you're interested, give me a call and we'll strike up a deal! My phone is 612/762-8847. I'll look forward to hearing from you.

Sincerely,



Eben A. Brown  
E. Arthur Brown Co.

EAB/hs (himself)  
enclosed: Inventory Sheets

P.S. Our Atari ST, Amiga, and IBM PC business is doing very well. If you have products we should be carrying, please don't hesitate to call or write about them.

**Inventory Of Sinclair Related  
Merchandise**  
(April 23, 1988)

**Timex Brand 2068 Software**

<u>Description</u>	<u>Qty</u>
Crazy Bug (Cartridge)	82
Spelling I	192
Home Improvement Planner	17
Circuit Board Scrambler	33
Personal Portfolio	2
States & Capitals (Cartridge)	73
Stock Market Simulator	3
Androids (Cartridge)	3
Casino I	12
Budgeter (Cartridge)	12
Spelling II	11
Word Play II	10
Crazy Bugs (Cassette)	25
Zeus Monitor & Disassembler (SoftSync Brand)	4

**Miscellaneous 2068 Software**

<u>Description</u>	<u>Qty</u>
Pixel Sketch & Graphics Editor (2.0)	17
Smart I (Communications Program for 2068, 1500, 1000)	150 (Aprox)
Masterfile w/MF-PRINT	1
HiSoft DEVPAC 3	1
Mountaineer Mailing List	1
Loader V w/Docs (Smart II Enhancer)	4
Sprites 2068 (Zebra)	8
ZTERM 64 (Zebra)	1
The WORX (Novelsoft)	9
ZXpert (Novelsoft)	1
Banner Designer (Zebra)	2
Tech Draw Jr. (Zebra)	10
HiSoft PASCAL (Spectrum)	7
Tomahawk (Blue Thunder) Flight Simulator	10
Opertion Caretaker (Spectrum)	1
Replacement Stick-On Keylegends (El-Cheapo)	15
Musician Royale (2068)	5
Musician Royale (IBM-PC)	5
Pixel Print Desktop Publishing (2.0)	5
Lemke Font Package #1	4
Lemke Icon Package #1	1
Lemke Tasword/Pixel Print	2
Lemke Font Package #2	2
2068 RGB Adaptor	1
Smart II Tasman CPI Patch	1

## TS Inventory...Continued

### Miscellaneous Timex-Sinclair Related Hardware

<u>Description</u>	<u>Qty</u>
Sinclair Pocket TVs (Possibly Defective)	3
Aerco 2068 Centronic Parallel Intfces (New)	4
RMG Descender ROMs (GP100/Gorilla Printes)	5
Entrepo QOS Cartridge Oper. Sys.	3
(For Commodore 64 Quick Data Drive)	
Entrepo Quick Data Drive for Commodore 64	1
Polaroid Flat Power Cell	15
(For Sinclair Pocket TV)	
ZX81 16K Power Pack (New)	6
Memopak 16K Module (New)	7
Memopak 64K Module (New)	1
A & J Microdrive Interface	1
Memopak 16K Module (Poss. Defective)	2
Memocalc Module (Poss. Defective)	1
Memopak 64K Module (Poss. Defective)	1
AERCO 2068 CPI (Poss. Defective)	1
Tasman CPI (Poss. Defective)	1
TTXPress Portable 80 Col. Printer (Poss. Defect.)	1
Alphacom Daisy Wheel Printer (New)	1
Alphacom Daisy Wheel Printer (Poss. Defective)	1

### Items For Sale Individually Or As a Whole

<u>Description</u>	<u>Qty</u>
Alphacom 32 TS Compatible Printers	11
(Same As Timex 2040)	
Molded Carrying Cases for TS1000/TS1500	20

### Miscellaneous Timex-Sinclair Books BOX #1

<u>Description</u>	<u>Qty</u>
2068 Basics and Beyond	4
Powerful Projects (Our "Tinkering") Book	5
TS1000 Ins and Outs	5
VuCalc/VuFile Book	4
TS Robotics Book	3
Interfacing Techniques for Timex Sinclair	9
TS2068 Beginner to Intermediate Bk.	16
TS2068 Intermediate to Advanced Bk.	16
Inside the TS2000 Bk.	14

### TS Books BOX #2

<u>Description</u>	<u>Qty</u>
Inside the TS2000 Bk.	18
TS2068 Intermediate to Advanced Book	50 (Aprox)

## TS Inventory...Continued

TS Books BOX #3

Description

Qty

Inside the TS2000 Book (One Complete Case)

80 (Aprox)

TS Books BOX #4

### Description

Qty

37 Timex 1000 Programs Book (One Complete Case)

100

TS Books TO BE SOLD BY THE CASE

### Description

Qty

TS2068 Beginner to Intermediate Guide (78 per case)

## 6 Cases

TS2068 Intermediate to Advanced Guide (80 per case)

5 cases

Assorted TS1000/ZX81/TS1500 Software (Sold As One Lot)

Description

Qty

Mostly Timex Brand...Wide Assortment

372

Atomic powered QL - Continued from p. 8.

on the QL with a compiled copy of the program.

20: Send out the dialup signal. The one here is for a Hayes modem; substitute your own modem's dialup signal.

30: Read channel #3 for the UTC string and test that it reasonably is the real string and not a modem report or other spurious signal.

40: Adjust the system timer from utc\$. The QL DATE\$ is set thru the command SDATE. This uses the items collected in line 2, plus the minutes and seconds sliced out of utc\$.

seconds sliced out of utc\$.  
50: For satisfaction's sake print out the reset DATE\$.

```

50: For satisfaction's sake print out the call.
60: Send out the hangup signal to terminate the call.

```

```

60: Send out the hangup.
70: Terminate the program.

```

Remember that DATE\$ is lost on powerdown and you have to call USNO to reset them at the start of each session. If your rig has a self-powered clock-calendar chip installed you can call USNO once, reset DATE\$, and then reset the chip from the timer.

• • • • •



# Add an ON/OFF Switch to Your QL

## a modest hardware project

by John Riley

I'll never understand what it is that Sir Clive has against the simple and convenient on/off switch. Neither the ZX81, the Spectrum, nor the QL were provided with them. Having to always be plugging and unplugging the power supply is not only bothersome, it quickly wears out the plug components! This started happening to my QL recently, and the wear on the power supply connector expressed itself in unpredictable crashes of the computer. I called Tom Bent, who prescribed cleaning the contacts with a spray from Radio Shack and mashing the Phillips connector with a pair of pliers to get rid of the looseness that had developed. It helped some, but the problem persisted. I don't know how it is with you, but losing a half an hour's work in an instant is a very frustrating experience for me!

I resolved to attack the source of my problem, the connector, and and replace it with a switch. Trotting over to Radio Shack again, I bought a triple-pole, double-throw switch (part #T27500 661) and a little 2 1/8 x 3 1/4 inch "experimenter's box" (part #T27000230)--total investment, \$5.23. With great satisfaction I cut the Phillips connector off of my power supply lead. The power supply was unplugged from the mains, of course! Some trimming of insulation revealed three color-coded wires, red, green, and blue. A little fooling around with a volt/ohm meter determined which wire went with which pin on the Phillips connector (see Fig 1 below). Next I drilled three holes in the experimenter's box, one on top for the switch, and one on each end for the wire to pass through. Wiring the switch

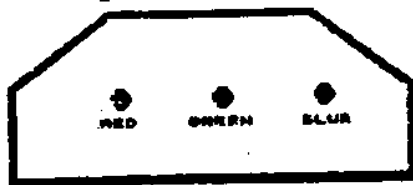


Fig. 1 - The Receptacle  
on the back of the QL

was a straightforward proposition, even for me!

The next big decision that I had to make was how to wire the newly-switched power supply into the QL itself. Taking the cover off the computer, I quickly realized that it would require a major disassembly to get to the portion of the motherboard that the male Phillips receptacle was soldered into. Therefore, I decided to take the easy way out--I soldered my wires directly onto the pins of the Phillips receptacle! It was tight work, but do-able using a small-tipped soldering iron. Looking from the BACK of the QL, the wiring sequence is: blue wire to the right pin, green wire to the center pin, and red wire to the left pin. I put some small plastic tubing on the wires before I soldered them onto the pins, which when pushed up onto the finished connections provided protection and insulation for them.

Switching on the QL (what a novel experience!), I was rewarded with the familiar power-up display. And guess what--no more crashes! Of course, my power supply is now permanently wired to the keyboard, but that is OK for me since I never move it. The solder connections to the Phillips pins may prove unreliable in the long run, and if they do I will go through the bother of removing the voltage regulator and microdrive assemblies so that I can wire straight into the motherboard. Complete instructions for this disassembly can be found in Volume 1, Issue 1 of Quantum Levels.

Here are some trouble shooting tips if you decide to do this to your QL. Do a continuity check on your own beheaded Phillips plug to make sure that the color coding of your power supply wires is the same as mine. Be careful to avoid solder bridges when soldering the wires to the pins. Tinning the pins first makes the soldering easier. Check the Phillips receptacle for wobbling--if it does, "shim" it with some thin plastic between the top of the receptacle and the QL case to eliminate another potential cause for crashes. If when you power up

Continued on page 3

Spoken from: cats december

You can get a soup-can sized module that furnishes unlimited eternal power for ... No, you can't! However, your QL's onboard timer can be set from the United States naval Observatory atomic clock.

The builtin timer ticks off the seconds from powerup, and is accessible from BASIC as the string function DATE\$. Printing DATE\$ displays the date and time on the screen and many programs can read this string to "stamp" datafiles with the instant date and hour. While you can set this timer from BASIC, the necessarily approximate time you key in may be too imprecise for some applications.

The USNO runs a dialup digital clock service on 202-653-0351, 1200b, 7E1 or 8N1, all hours. When you acquire the connection with the service there is no logon process. It immediately starts sending down the wire once each second a coded string giving the instant Coordinated Universal Time (UTC). The time resolution is only to whole seconds, but for virtually any legal or commercial matter this is thoroly adequate. Also there is a transmission delay in the phone grid of up to 300 milliseconds and the massaging of the UTC string, once captured by your computer, does occupy a few more milliseconds.

Assuming the captured UTC string is "47178 018 032954 UTC" it is laid out is follows:

- char 1 to 5      the lower five digits of the Julian Day Number. the full JDN is this number plus 2400000.5. ["47178", JDN is 2447178.5]
- char 7 to 9      the number of the day within the year, from 1 to 365 or 366. ["018", date is 18 January]
- char 11 to 16    the hour, minute, second of UTC, with no separators. ["032945", UTC is 03h 29m 54s]
- char 18 to 20    the letters "UTC" for "Universal Time, Coordinated"
- char 6, 10, 17   space, blank

Do not run your regular comms program for altho you will see the UTC string fired to the screen second by second there is no quick simple way to grab one into a BASIC variable for adjusting the system timer. Write and run a plain-vanilla BASIC terminal program as illustrated below.

The call to the digital clock is timed to disconnect after one minute. This is entirely sufficient time to capture one UTC string and hangup the phone; you'll be billed for a one-minute long distance call to Washington. The modem is fitted to the QL "SER2" port in the usual configuration.

```

2 INPUT "4-digit year, month number, day, 0-24 hour"; year,month,day,hour
10 BAUD 1200: OPEN#3,ser2e
20 PRINT#3,"ATDP12026530351"
30 INPUT#3,utc$: IF LEN(utc$)<>20 THEN GO TO 30
40 SDATE year,month,day,hour,utc$(13 TO 14),utc$(15 TO 16)
50 PRINT DATE$
60 PRINT#3,"ATH"
70 STOP

```

2: Collect the date and time for SDATE; the minutes and seconds will be captured later from the digital clock.

10: Open channel #3 to the SER2 port at 1200bps, even parity. Some particular QL setups may falter at 1200bps in BASIC. Because the USNO transmits only at 1200bps you'll have to try it out. You should succede

# focus on:

## TIMEXsinclair

### 2068

Selected articles from other  
users groups' newsletters

## TS 2040 PRINTER SWITCH

by John Ezike

From 28 Appeal, Vancouver Sinclair Users Group-Summer, 1987  
Concluded from the September issue

Now refer to Fig.2. Retrieve the top half of the case and with a drill or some other suitable device, drill a 1/4 inch hole to mount the switch. Place the two case halves together and drill another hole, just large enough to fit the LED, centered where the cases halves join. DON'T DRILL AROUND THE PRINT MECHANISM!! Mount the switch in the 1/4 inch hole. It'll be a little cramped so take your time. Solder the free end of the wire connected to 'C' to the center terminal of the switch. Solder the free end of the wire connected to 'D' to either of the two outside terminals on the switch. Replace the PCB in the lower half of the printer case, making sure to align the notches on the side of the PCB with the tabs in the case. Replace the printer mechanism. The rubber grommets in the flanges should be flush with the top of the screw posts. Plug in the two ribbon connectors, pushing down firmly but carefully to make sure they are in all the way. Bend the LED forward so it rests on the groove formed by half the hole in the bottom half of the case and protrudes about 1/8 inch outside the case. Make sure the LED leads are apart. Hold both case halves together, turn over, and replace the screws.

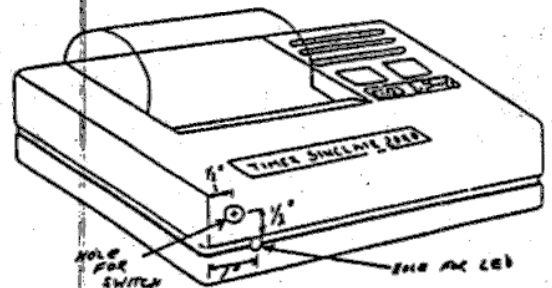
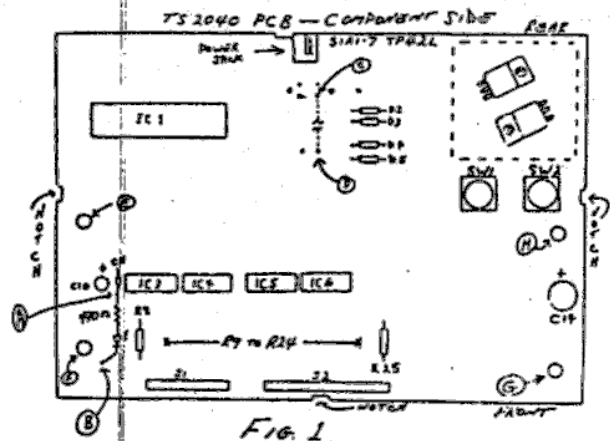
Plug in the power. If the LED is lighted, the switch is in the 'on' position. If it isn't, try the other switch position. If the LED still does not light, quickly unplug the power,

open up the printer and check the connections, especially the installation of the LED, looking for solder bridges and/or bad joints. If no problems and the LED is lighted, insert the paper and perform the self-test procedure as described in the printer manual.

If all goes well, CONGRATULATIONS!!!

To use the printer after plugging in: turn the new switch 'on', and press the 'on' button. When finished just turn 'off' the new switch - no need to unplug. This project should also work for the Alphacom

Editor's Note: I substituted a Radio Shack #275-1565 push-on push-off switch for the one in the article. The placement is very important. I suggest if you do use this switch that you drill the required hole on the top surface to the left of the paper roll at least two inches from the front edge.



Stolen From: CATS

OCTOBER

FIG 2

# Build a Spectrum Rowswitching Circuit for your TS-2068

By Gary Lessenberry  
From SLUG Newsletter, Sinclair Louisville Users  
Group, June 1987  
Originally published by CFTUG, Rite-Times News

I recently purchased some Spectrum ROMs from Zebra Systems with the hope that I might be able to make my own Spectrum rowswitching circuit without paying the high price of those circuits that are commercially available. When I examined the TS-2068's ROM circuitry, I realized that this was an easier task than I had originally assumed! All that I needed was: a Spectrum ROM, an SPDT toggle switch (Radio Shack #275-0725), two feet of insulated wire and two 10K ohm resistors (Radio Shack #271-133).

To start the project, you first remove the top from your computer case by removing the seven screws in the bottom of the case. Then you look inside. It will appear as in figure 1. You now remove the Timex ROM (U10). To remove it, gently pry it with a small screwdriver or knife inserted between the socket and the ROM.

It is important that you test your Spectrum ROM before constructing this circuit. To test it, place it in the socket from which you have removed the TS-2068 ROM and energize your computer. The Sinclair copyright should be displayed. If not, your ROM may be defective. After the test, remove the Spectrum ROM.

Take your Timex ROM and place your Spectrum ROM directly over it with the notches in the same direction (see figure 3). There should only be a thin space between the two ROMs and all of their leads should be touching. Do not leave a lot of space between these ROMs because clearance is critical when you reassemble your computer! You will now, very gently, bend pin 20 on both ROMs upward until they are perpendicular to the other pins. You may now solder all of the pins except pin 20. Be careful when soldering. Allow 30 seconds between the soldering of each pin so that you won't overheat and damage the ROMs. To pin 20 of each ROM, you will solder a piece of wire and one end of a 10K ohm resistor. The other end of each 10K ohm resistor will be soldered to pin 20 (of each). The other end of the two wires that you have coming from pin 20 of the two ROMs will be soldered to the toggle switch. The toggle switch has three pins on it. Two of these pins are labeled "ON". Solder one wire to each of these two pins. Another wire will be soldered to the middle pin of the toggle switch with the other end of that wire going to the circuit board and soldered to V1.

At this point, you may reinsert your ROMs into their socket. A hole must be drilled in the rear of your case for mounting your toggle switch. After the toggle switch has been installed, you may replace the top of your computer. Be careful when reinserting the top of the computer to ensure that there is proper clearance and nothing is being forced!

Once your computer is reassembled, you may test it out. You can tell which ROM is selected by the printout after initialization. When in the Spectrum mode, the Sinclair copyright will be displayed. When the TS-2068 mode is selected, the Timex and Sinclair copyrights will both be displayed. If you have any problems or questions, you may call me at (312) 473-9415 or leave me a note at the Rite Owl Special BBS (312) 489-0721.

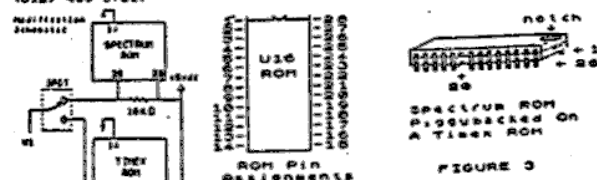


FIGURE 1  
ROM PIN ASSIGNMENTS

## Alternate Character Set for the Spectrum or 2068

From The Data Expansion, T/S Users Group of Fort Worth, May, 1987

I know that many of you get very tired of seeing the normal character set for the Timex and Sinclair computers. Then you design a different character set to use to make it look more readable or at least more interesting. I found this one in an old ZX COMPUTING and thought that it looked very good. I am sure that it can be modified to make the program RAM run faster than it does not including using a compiler. Of course, once you have run the program, you can save the CODE and just load that to use whenever necessary.

```
10 REM Alternate Character Set
20 BORDER 61 PAPER 61 INK 0:CLS
30 LET a=PEEK 23606+256*PEEK 23607
40 PRINT AT 21,21"Enter Spectrum Memory size."
50 INPUT "16 or 48 " :ram
60 IF ram<16 AND ram>48 THEN GO TO 50
70 PRINT AT 20,61"Please Wait 2 Minutes
  Being Generated."
```

Character Set

```
80 IF ram=16 THEN LET c=31488
90 IF ram=48 THEN LET c=64000
100 REM >>Transfer and Modify<<
110 FOR n=c TO c+1024:LET b=PEEK a:POKE n,b
120 IF b/4=INT (b/4) THEN POKE n,b+2
130 IF b/8=INT (b/8) THEN POKE n,b+4
140 IF b/16=INT (b/16) THEN POKE n,b+8
150 IF b/32=INT (b/32) THEN POKE n,b+16
160 IF b/64=INT (b/64) THEN POKE n,b+32
170 IF b=66 THEN POKE n,b+32
180 IF b=0 THEN POKE n,0
190 LET a=a+1: NEXT a: BEEP .1,5
200 REM >>Display Results<<
210 CLS : POKE 23607,c/256
220 PRINT AT 2,9:" POKE 23607,c/256
230 PRINT " To Obtain this Character Set."
240 POKE 23607,60
250 PRINT AT 8,9:" POKE 23607,60"
260 PRINT " To Return to Normal Characters."
270 PRINT AT 14,0:"SAVE!-SAVE name CODE 'c',1024"
280 PRINT " This Basic Program may be REUSED Leaving
  Sub-Routine above Ramtop Press any key to STOP"
290 PAUSE 0: CLEAR c: STOP
300 SAVE "alt char" LINE 1
```

## The World of CP/M

By David Baulch  
With help from "CP/M and the Personal Computer"  
From The Data Expansion, T/S Users Group of Fort Worth, June, 1987

You own a microcomputer, a Timex probably, if you are reading this, an 'old' Z-80 based computer. There are building blocks that will help to extend the life of your computer—the AERCO interface, disk drives and a microcomputer disk operating system. One of these disk operating systems is MS-DOS or Micro-Soft Disk Operating System. Another one, the one being discussed here, was originally called 'Control Program for Microcomputers'; we know it now as...CP/M.

CP/M is a program, or rather a set of programs or tools, that gives the computer operator advanced facilities and special manipulative facilities for the information stored on disks. It resides at the top of user memory (RAM). It is functionally divided into three modules:

1. CCP which means the CONSOLE COMMAND PROCESSOR.
2. BDOS which means the BASIC DISK OPERATING SYSTEM.
3. BIOS which means the BASIC INPUT AND OUTPUT SYSTEM.

Some of these 'facilities' are permanent (e.g. ERA—erase a disk file) and some are transient (called only when a complicated job is necessary). These three modules and other programs are usually all on your CP/M disk; when you do a 'cold boot', you are loading CP/M: CCP, BDOS, BIOS and the programs or 'facilities' necessary to boot CP/M to work.

CP/M resides at the top of RAM where it occupies approximately 8K bytes, and its exact location depends on the size of RAM available. It always uses the first 256 bytes of RAM as a fixed base of operations.

The standard facility names are usually quite brief using a vocabulary like: ERA, DIR, REN, SAVE, TYPE, STAT, ASM, LOAD, DOT, PIP, ED, SYSGEN, SUBMIT, DUMP, and MOVCPH. There are other commands as well. Sub-systems have an even more complex and confusing vocabulary until it is learned. The command structure is broken down into to main categories - built in commands and transient commands.

NOTE: 'ufn' means 'unambiguous filename' being the exact name of the file. 'afn' means 'ambiguous filename' being several files having similar names and can accept ? or \* for WILDCARD symbollogy (any character or group of characters).

### SEVEN BUILT IN COMMANDS

- 1) di ----- changes the logged in drive to drive diaz (any one of 16 allowable drives)
- 2) DIR afn ----- lists the names of all files on disk with name afn
- 3) ERA afn ----- erases the file(s) with the name afn
- 4) REN afn2=ufn1 - renames files (newname=oldname)
- 5) SAVE n ufn ---- saves n (number of pages 1-255) of the TPA (Transient Program Area) on a disk with name ufn
- 6) TYPE ufn ----- lists and ASCII file to the screen. Also possible to list a machine code program to screen.
- 7) USER n ----- to distinguish the user n (0-15; default 0) of the disk

### NINE TRANSIENT COMMANDS

- 1) ASM - Assembler
- 2) DOT - Dynamic Debugging Tool
- 3) DUMP afn - Similar to TYPE except the file is displayed in HEX
- 4) ED - a text editor
- 5) LOAD - Used to load a .HEX machine language file into a command file
- 6) PIP - (Peripheral Interchange Program) moves copies of programs from one place to another
- 7) STAT - Statistical information about disk file storage and amount of bytes left
- 8) SUBMIT - For submitting a 'batch' of jobs where each job is a CP/M command together with whatever programs are necessary to complete the job
- 9) XSUB - When DOT ufn is executed, it waits for a sub-command which can be supplied ahead of time with XSUB (lets you 'stack' commands)

This is only the preliminary work with CP/M. The programs that 'RUN' under CP/M naturally take advantage of the many resources that are available with this operating system.

Stolen From: CATS

OCTOBER